AMENDMENTS TO THE DRAWINGS

The attached replacement sheets of drawings include changes to the Figure, previously labeled as Figure 1.

REMARKS

Drawing

A replacement drawing sheet has been submitted in which the label "Fig. 1" is removed in order to overcome the Examiner's objection pursuant to 37 CFR §1.84(u)(1). The specification has been amended to change references to "Fig. 1" to instead refer to "the Figure" since there is only one figure in this application. Applicants respectfully request removal of the objection to the drawing and the specification.

Rejection of Claims 4, 8, and 9 under 35 USC §112, paragraph 5

The Examiner rejected Claims 4, 8, and 9 under 35 U.S.C. §112, paragraph 5 for improper form as reciting a multiple dependent claim depending from another multiple dependent claim. This rejection overlooks the Preliminary Amendment filed on June 20, 2005 that placed these claims in proper form. Applicants respectfully request reconsideration and removal of this rejection.

Rejection of Claims 1-9 under 35 USC §103(a) based on Hall in view of Perry's Chemical Engineers' Handbook

Applicants submit that Claims 1-9 are patentable over Hall in view of Perry's Chemical Engineers' Handbook.

Neither Hall nor Perry render obvious a phosphoric acid product purified to the extent claimed by Applicant or a process for producing such acid. The examples of Hall's disclosure ('526, 6:47-8:53) teach a significantly lower degree of purification for the same 85% H_3PO_4 solution. The purity of the phosphoric acid taught by Hall and that taught and claimed by

Applicant differs by an order of magnitude. Hall's examples produce phosphoric acid with 13 parts per *million* (or 13,000 parts per *billion*) of antimony (Sb). Applicant claims a phosphoric acid with less than 200 part per *billion* (ppb) of Sb. Applicant's production of the substance, as in Claim 1, that is *65 times* more pure (with respect to antimony) is not obvious.

Hall teaches away from Applicant's recitation in Claims 2 and 5 of carrying out the reaction of hydrogen sulfide gas with phosphoric acid and the subsequent filtering step at temperatures of "59°C or lower". Regarding the filtration step, Hall states:

> "The filtration is carried out at a temperature of at least 60°C., preferably from about 60°C. to about 75°C. to assure that the phosphoric acid has a sufficiently low viscosity to enable the filtration to take place at a reasonable rate consistent with commercial practice. The *use of lower temperatures, that is, below about 60°C., will generally reduce the filtration rate to an unacceptable point* because of the increase in the viscosity of the acid when the temperature of the acid is lowered. *Temperatures above 75°C can be employed*, but such high temperatures are normally not necessary since the acid viscosity is sufficiently low to permit acceptable filtration rates on commercial units used in the plant." ('526, 2:65-3:9 emphasis added; *see also* 1:38-43 and 1:55-58)

Hall also limits the temperature of the preceding step in which HS gas and phosphoric acid are combined to correspond with the "same temperature at which the phosphoric acid is subject to filtration." ('526, 2:46-55) Hall's invention includes the addition of hydrogen peroxide to the phosphoric acid solution as an essential additional step. In Hall's invention, if the hydrogen peroxide step is not used to precipitate additional heavy metals, the result is that of "EXAMPLE A" in which the post-precipitation of antimony upon cooling the acid subsequent to filtering at a higher temperature is problematic causing the resulting solution to fail the heavy metal test. ('526, 7:64-8:11)

In contrast, because Applicant conducts the HS/H_3PO_4 reaction and filtering steps themselves at lower temperatures there is not a substantial amount of additional antimony precipitation upon a reduced extent of cooling, if any cooling at all. For this reason Applicant's invention does not require the additional step of a hydrogen peroxide reaction but is self-containing. Hall's claims 1, 5, 8 and 11 all specifically exclude Applicant's range of low filtration temperatures. Applicant's specification addresses the need to balance the desire for reduced viscosity during filtration (i.e. suggesting a higher temperature) with the desire not to induce re-dissolution of sulfides (i.e. suggesting a lower temperature). The range of temperatures utilized, below 59°C., takes these factors into account. More powerful filtration methods (i.e. using special equipment with a wide area, pressure and vacuum filtration) can be selected accordingly based on the increased viscosity of the solution at the lower temperature at which filtration is conducted.

Rejection of Claims 1-4 under 35 USC §102(b) or §103(a) based on Hall et al. or JP 56-73608

The Examiner makes a product-by-process inherency argument, reasoning that since the processes disclosed by Applicant and the references are *substantially* the same, the products and their characteristics will match those claimed by Applicant.

As noted above, however, Hall explicitly reports results of phosphoric acid which contains Sb well above that claimed in the present application. On its face, Hall's phosphoric acid cannot inherently meet the claimed invention.

Furthermore, Hall's process is materially different from that claimed by Applicant because in it the hydrogen sulfide gas and phosphoric acid solution combination and the subsequent phosphoric acid filtration occur at high temperatures expressly outside the range of Applicant's claims. There is no overlap in the claimed ranges. Second, Hall's process contains a step in which hydrogen peroxide is added to precipitate impurities.

The product taught by JP 56-73608 would not inherently possess the characteristics (i.e. the degree of purity) of the invention because the Sb and sulfide content in the product taught by JP '608 would necessarily be over the claimed range. The sulfide content in the phosphoric acid according to JP '608 would necessarily be very high, beyond the claimed range, because the reference does not teach carrying out the removal of the hydrogen sulfide gas blown into phosphoric acid. Further, the process taught by JP '608 includes adding additional hydrogen sulfide as a reducing agent to neutralize an oxidizing agent with which the phosphoric acid is brought into contact after removal of a deposit.

Rejection of Claims 5-9 under 35 USC §103(a) based on JP 56-73608 in view of Hall et al., and further in view of Perry's Chemical Engineers' Handbook

Neither Hall nor Perry's Chemical Engineers' Handbook suggest that the temperature at which the first step of blowing hydrogen sulfide gas into phosphoric acid and the second step of filtering are carried out at 59°C or lower.

In the last Office Action, the rejection did not account for obviousness of the "aging" element, previously recited in Claim 6. None of the references appear to teach "aging" or render it obvious. Claim 5 has been amended to include this recitation previously found in Claim 6 in addition to the recitation of a temperature at which this process is carried out.

Claim 6 has been cancelled in view of the amendment to Claim 5. Claims 7 through 9 have been amended to depend from Claim 5 rather than Claims 5-6 in view of the cancellation of Claim 6.

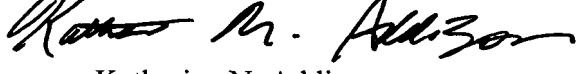
Applicants submit that the claims are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



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